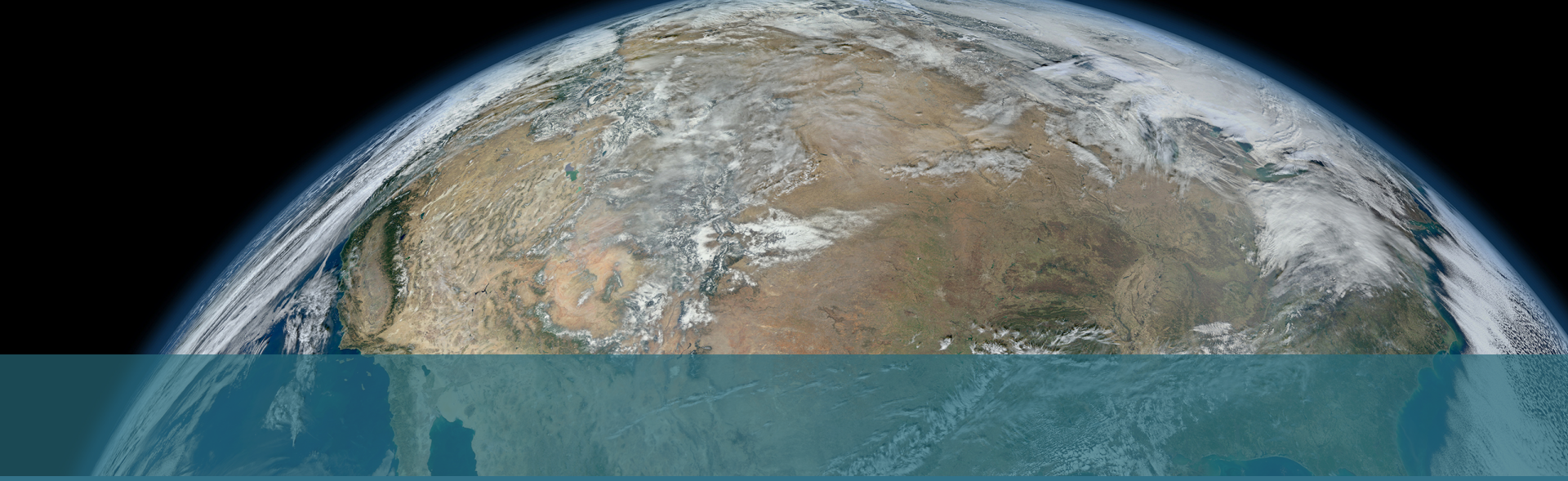
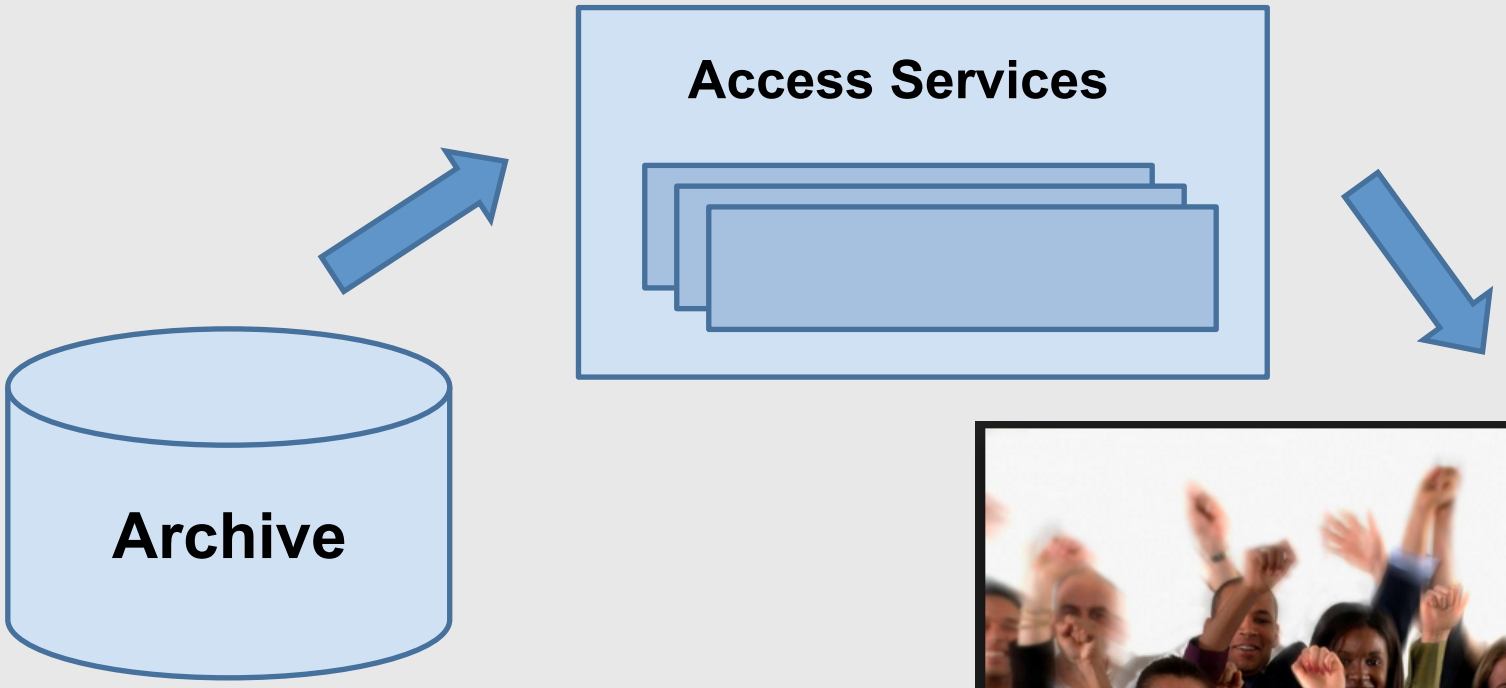


Improvements to Data Access at NCEI

Steve Ansari
Physical Scientist, NOAA's National Centers for Environmental Information

August 4th, 2015

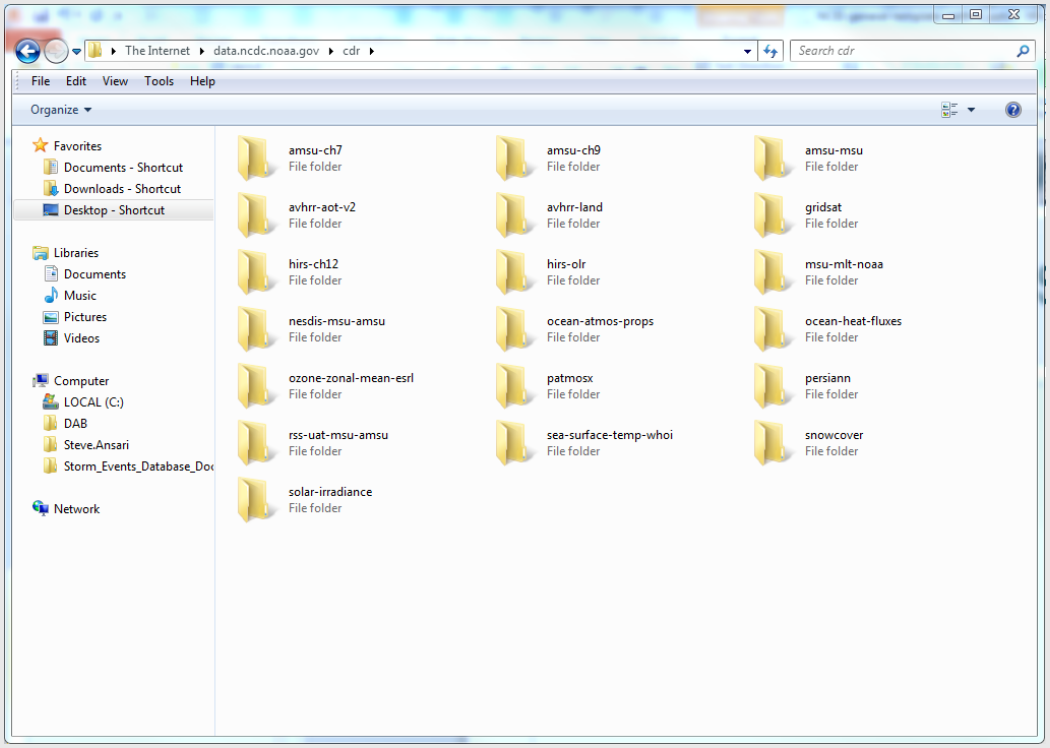
Data Access – Overview

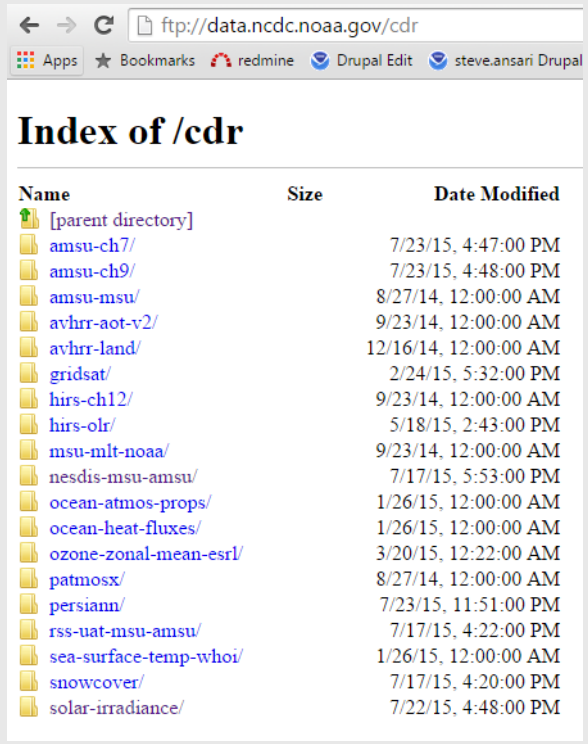


Current Status…
Future Improvements?

Data Access – Current Status

FTP Download

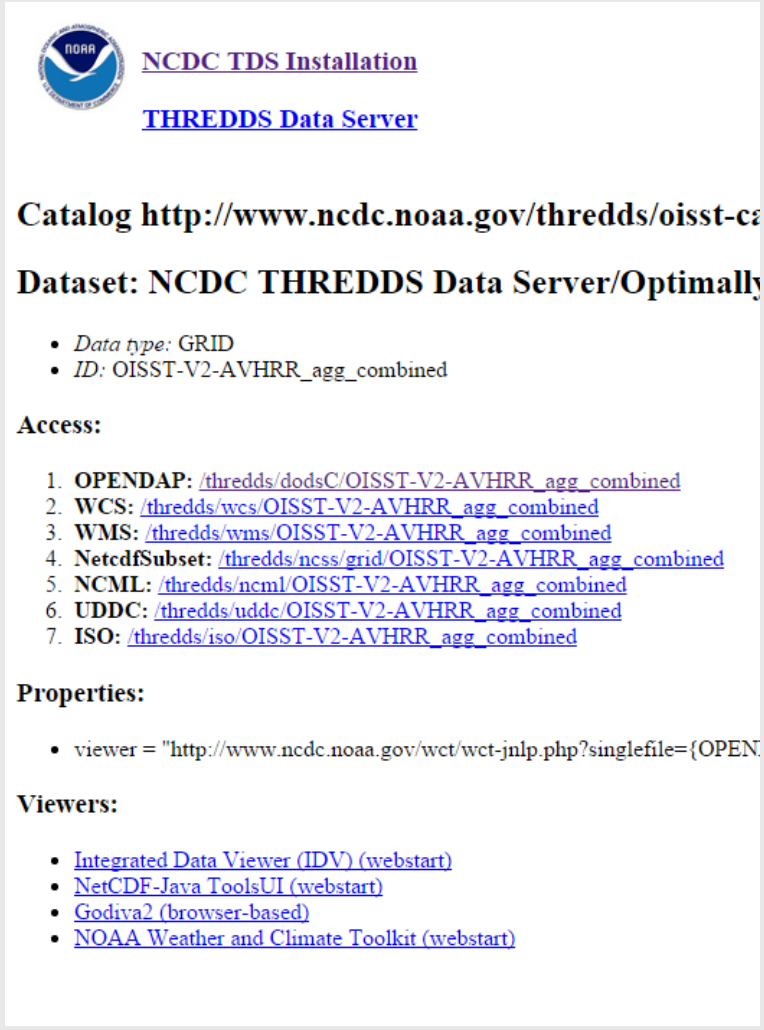




Data Access – Current Status

THREDDS Data Server

- HTTP Download
- Aggregations
(virtually stack all files/timesteps as a single huge file)
- NetCDF Subset
- OPeNDAP
- Web Map Service
(integrating with GIS and Web Mapping [example])



NCDC TDS Installation

THREDDS Data Server

Catalog http://www.ncdc.noaa.gov/thredds/oisst-ca

Dataset: NCDC THREDDS Data Server/Optimally

- *Data type:* GRID
- *ID:* OISST-V2-AVHRR_agg_combined

Access:

1. **OPENDAP:** /thredds/dodsC/OISST-V2-AVHRR_agg_combined
2. **WCS:** /thredds/wcs/OISST-V2-AVHRR_agg_combined
3. **WMS:** /thredds/wms/OISST-V2-AVHRR_agg_combined
4. **NetcdfSubset:** /thredds/ncss/grid/OISST-V2-AVHRR_agg_combined
5. **NCML:** /thredds/ncml/OISST-V2-AVHRR_agg_combined
6. **UDDC:** /thredds/uddc/OISST-V2-AVHRR_agg_combined
7. **ISO:** /thredds/iso/OISST-V2-AVHRR_agg_combined

Properties:

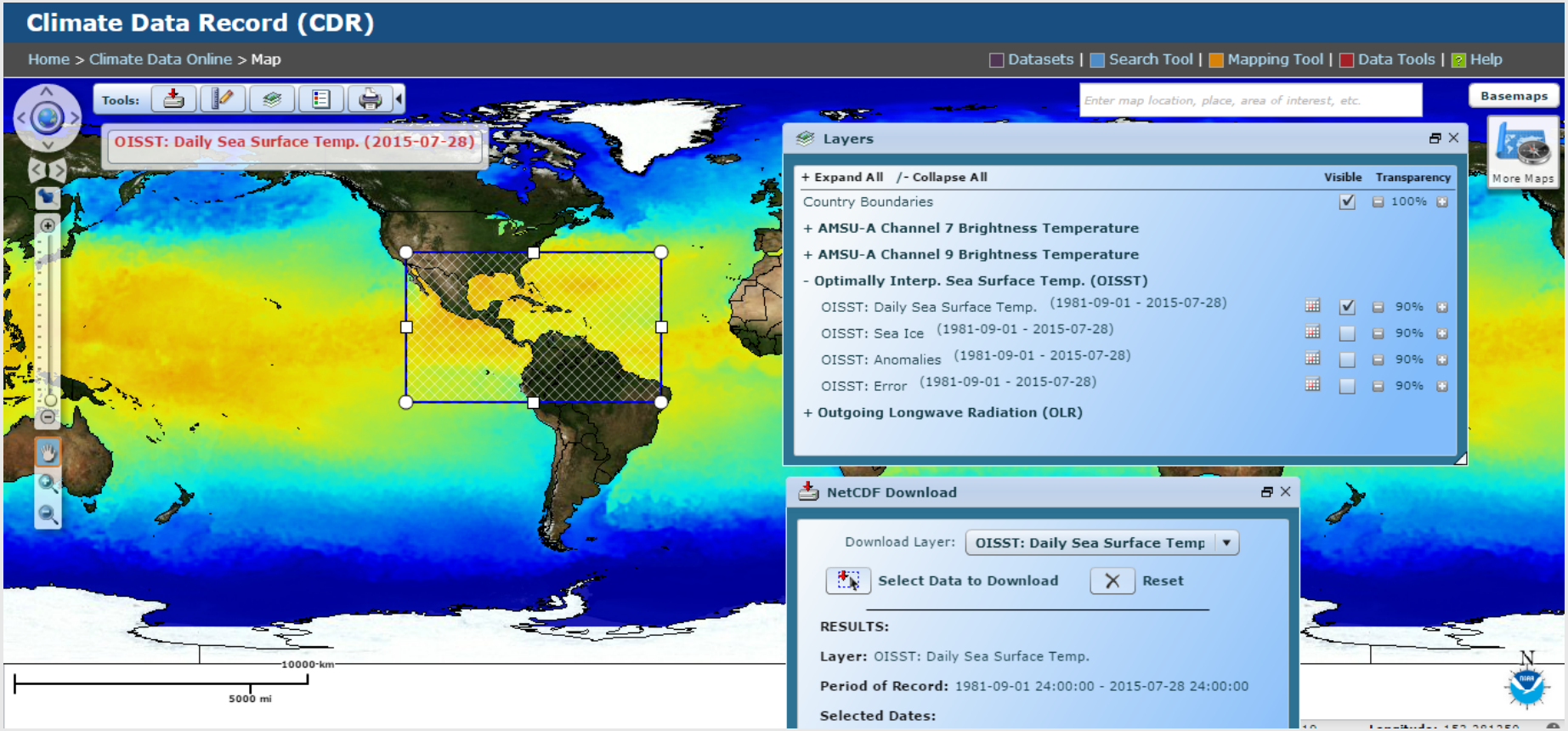
- viewer = "http://www.ncdc.noaa.gov/wct/wct-jnlp.php?singlefile={OPEN

Viewers:

- Integrated Data Viewer (IDV) (webstart)
- NetCDF-Java ToolsUI (webstart)
- Godiva2 (browser-based)
- NOAA Weather and Climate Toolkit (webstart)

Data Access – Current Status

NCEI Online Mapping



Data Access – Current Status

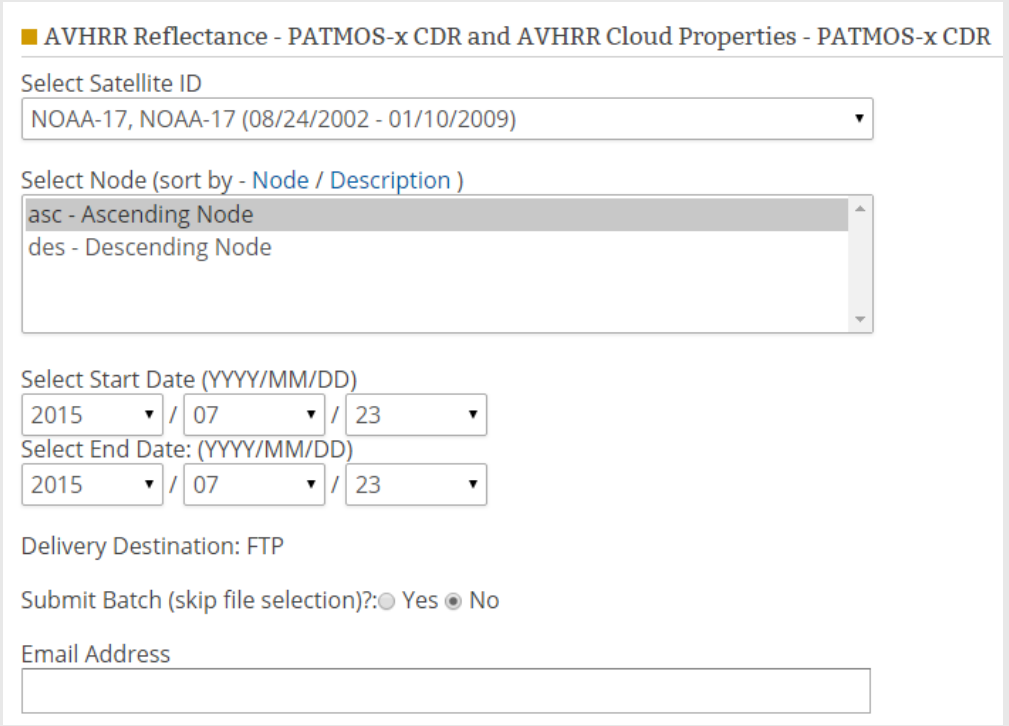
NCEI Online Mapping

- Only a few CDR datasets available
  - AMSU Ch7, AMSU Ch9, OISST, OLR (daily & monthly)
- Built on gridded, aggregated data in THREDDS
- Uses services provided by THREDDS to display and subset
- 100 MB and single variable subset limits

Data Access – Current Status

Archive Ordering System

- Submit orders for data that reside only on the archive tapes.
- Includes large CDRs that are too large or complex to efficiently serve from disk.
- Currently 5 CDRs are available.



Data Access – The Problem

Problem:

No simple, single user interface to order and subset ALL CDR data.

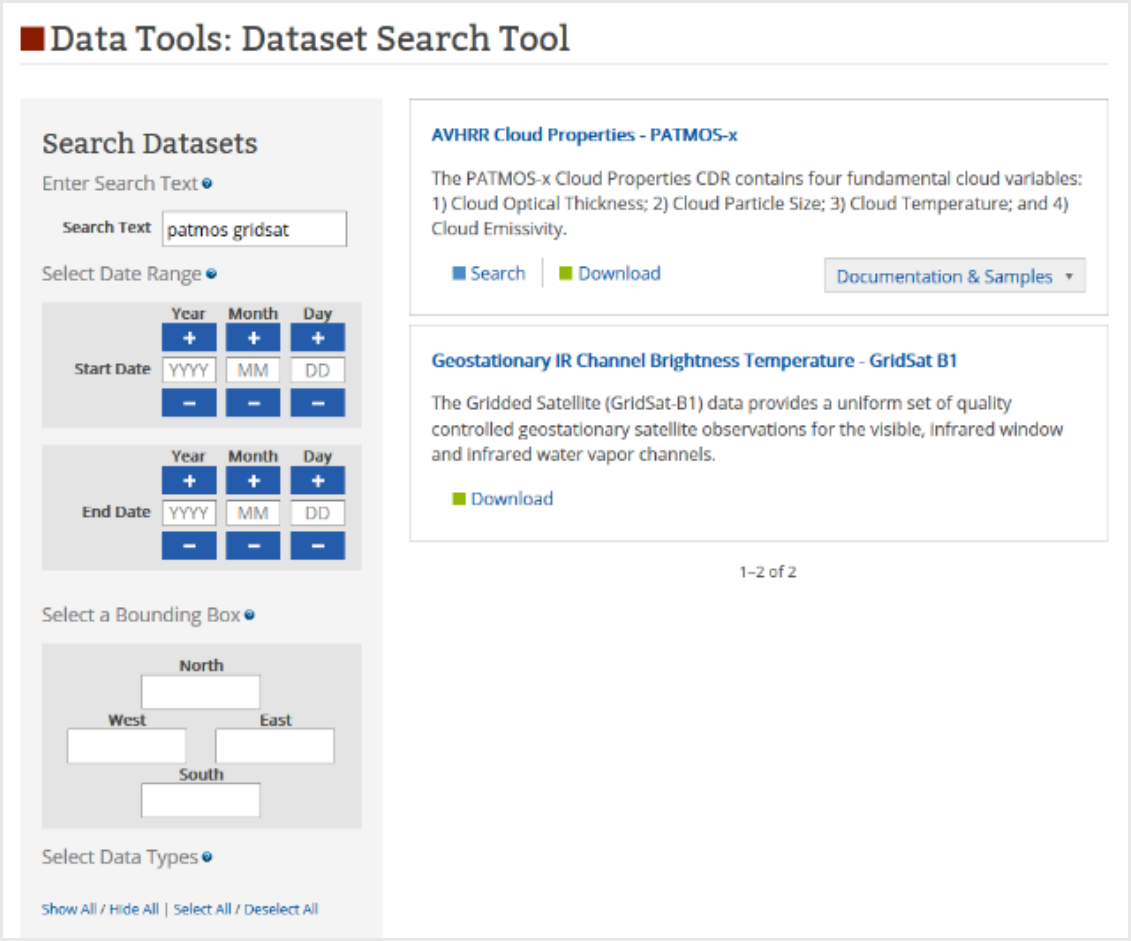
Solution:

User-friendly consolidated access system for CDR data. Supports access to CDR data stored in multiple NCEI storage solutions. Eliminates need for users to navigate multiple access systems.

Data Access – Future Improvements

Dataset Discovery:

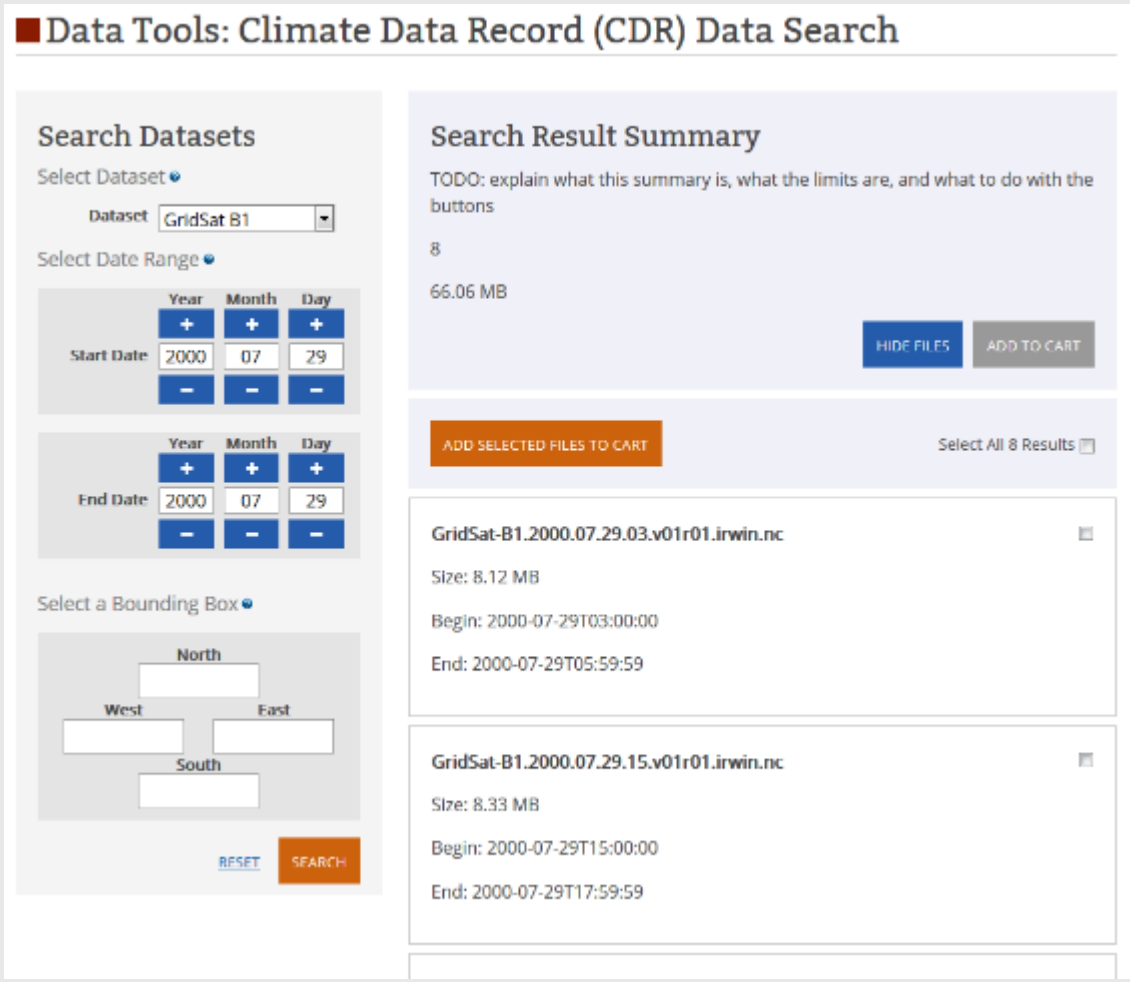
- Text Search
- Date Search
- Bounding Box Search
- GCMD Keyword Filter
- Driven by the ISO Metdata



Data Access – Future Improvements

Data Selection:

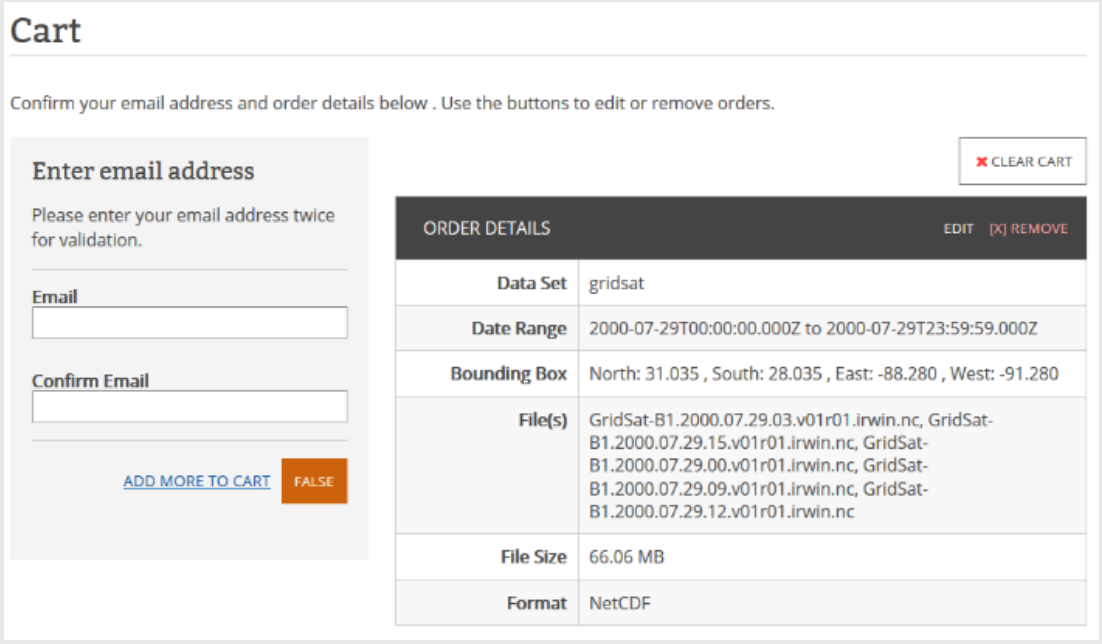
- Supports Time, Geographic and Variable Subsetting.
- Order WITHOUT selecting files!
- Or select files if needed



Data Access – Future Improvements

Submit Order:

- Shopping Cart based design.
- Clear layout of order summary
- Users contacted via email when order is complete.
- Links to tools, such as NCEI-provided Weather and Climate Toolkit



Data Access – Future Improvements

Faster Updates:

- Improvements to data flow management at NCEI's Data Access Branch.
- Data will be available by FTP/THREDDS within 24 hours of archiving.

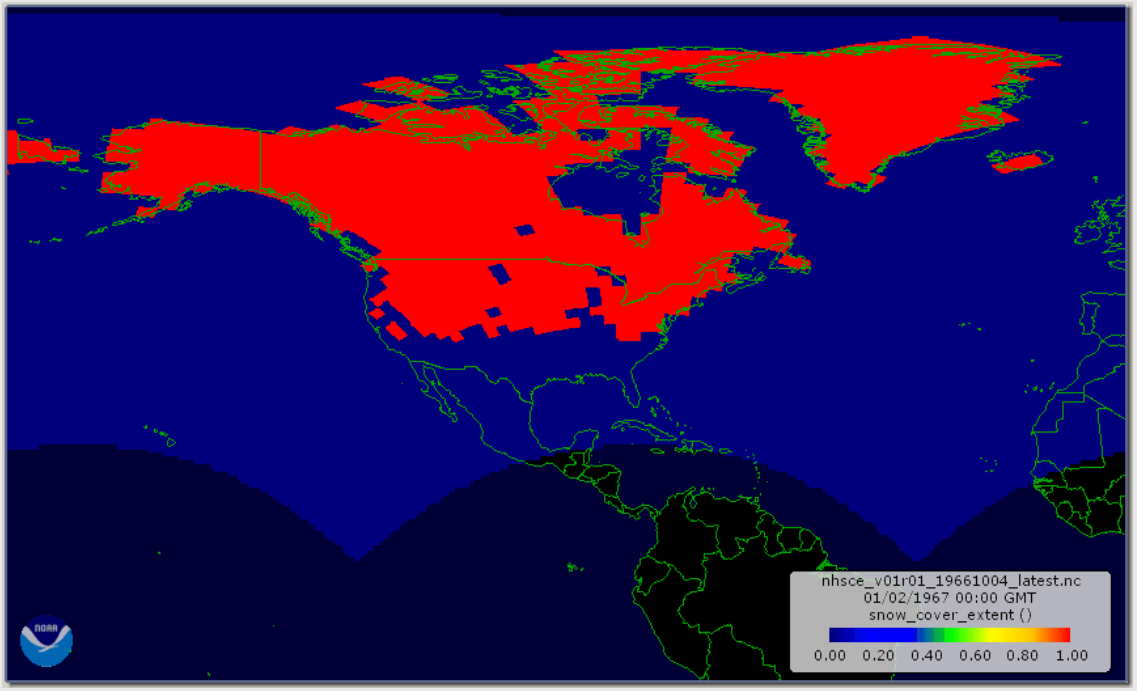
Data Access – Future Improvements

Summary:

- Existing access to CDRs could be more consistent and user-friendly.
- Existing access is structured for bulk downloads and standards-based web services and interoperability.
- A consolidated user-friendly access system is under development.
- The new access system still has months of development and testing before initial release.
- Faster updates to data on FTP and THREDDS are coming soon!

THANK YOU! QUESTIONS?

Data Access – Future Improvements

Weather and Climate Toolkit:

- Desktop or command-line tool for Windows/Mac/Linux
- Simple visualization, animations and tools
- Data Export to common formats, such as GIS